Universiti Teknologi MARA

Dam Haji Game
Using A* Search Algorithm

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ABSTRACT

This project is about developing a Dam Haji game using A* search algorithm. Dam Haji is an abstract strategy board game which played by two players. It is one of the Malaysia's Traditional games and it is also known as checkers or draughts in another country. To develop computer games for strategic board game such as chess and checkers, they will used a longer time taken to compute as it involved the pathfinding and searching. Therefore many research have been done to develop this type of computer game by using the AI techniques. In Dam Haji game, the goal is to find the optimal movement to make, so A* algorithm, which is a pathfinding algorithm is used. The project is completed by going through the preliminary study phase, data preparation phase, system design and implementation phase, and the evaluation and result analysis phase. The results of this project is a Dam Haji game using A* algorithm which it is able to make legal movements based on the game's rules and a matchup with a computer-based player that have gone through a process of computer learning to make movement based on the A* shortest path technique. This project will be evaluated by using the efficiency test and the recommendation for this project in the future is to create count of movements for each player as to use as the win state.

TABLE OF CONTENTS

CONTENT		PAGE
SUPERVISOR APPROVAL		ii
STUDENT DECLARATION		iii
ACKNOWLEDGEMENT		iv
ABSTRACT		v
LIST OF FIGURES		ix
LIST OF TABLES		x
LIST OF ABBREVIATIONS		xi
CHAPTER 1: INTRODUCTION		1
1.1	Background of Study	1
1.2	Problem Statement	3
1.3	Project Objectives	4
1.4	Project Scope	4
1.5	Project Significance	4
1.6	Research Methodology Framework	5
1.7	Summary	6
CHAPTER 2: LITERATURE REVIEW		7
2.1	Game Artificial Intelligence	7
2.1.1	Overview of Game Artificial Intelligence (AI)	7
2.1.2	Game Artificial Intelligence Technique	7
2.2	A* Algorithm	11
2.2.1	Overview of A* Algorithm	11
2.2.2	Procedure of A* Algorithm	12
2.2.3	Previous Studies of A* Algorithm	13
2.3	Game	14
2.3.1	Overview of Game	14
2.3.2	Number of Player	15

2.3.3 Game Genres 16
2.3.4 Computer Game 17
2.4 Dam Haji Game 18
2.4.1 Rules of Dam Haji Game 18
2.4.2 Previous Studies in Computerized Dam Haji 19
2.5 Dam Haji Game using A* Search Algorithm 20
2.6 Summary 20

CHAPTER 3: METHODOLOGY 21

3.1 Dam Haji Game using A* Algorithm Methodology Framework 21
3.2 Preliminary Study Phase 22
3.3 Data Collection & Preparation Phase 24
3.4 System Design & Implementation Phase 27
3.4.1 Algorithm Design 28
3.4.2 User Interface Design 32
3.5 Project Implementation 32
3.6 Result analysis 34
3.6.1 Efficiency Test 34
3.6.2 Project Documentation 35
3.7 Summary 36

CHAPTER 4: RESULT AND DISCUSSION 37

4.1 Dam Haji Game using A* Algorithm Framework 37
4.2 Input 39
4.3 Implementation 40
4.4 Evaluation 40
4.5 Conclusion 43

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS 44

5.1 Summary of Project 44
5.2 Contribution of Study 45
5.3 Limitation of Study 45
5.4 Recommendations for Future Work 45